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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/715,697	11/18/2003	Wayne J. Hamilton	BOI-0166US	5390
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SUITE 500				
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EXAMINER				
BOES, TERENCE				
ART UNIT		PAPER NUMBER		
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04/23/2008		PAPER		

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/715,697

Applicant(s)

HAMILTON, WAYNE J.

Examiner

TERENCE BOES

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 14 January 2008.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-13 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-13 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-946)
- 3) ☐ Information Disclosure Statement(s) (PTO/SE/US)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____

DETAILED ACTION

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

1. Claims 1-4, and 6-13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Yokel USP 3,803,934 in view of Rediker US 5,323,665 US 5,323,665.

Yokel discloses:

- a drum (see thin portion of gear 44 between shaft and teeth) having an inner cylindrical wall (see portion of gear 44 immediately adjacent shaft) adapted to be mounted on the shaft, an outer cylindrical wall (see root circle of gear 44), and a drum face (see face of drum facing in axial directions) connected to said inner cylindrical wall (see gear 44 in figure 1);
- a gear ring (see thicker portion of gear 44 between teeth and drum portion) mounted on and fixed to an outer circumference of the drum face; and gear teeth (see meshing teeth on outer circumference of gear 44) formed on an outer circumference of the gear ring,
- wherein a vector normal to the gear teeth at a radial and a vector perpendicular to the inner cylindrical wall at the radial have an angular difference that is less than 30° (C3/L10-20)

- a power generation system including an engine (C2/L14-15);
- a shaft (10) coupled to the engine; and
- a spur gear (18) mounted to the shaft;
- a receiving system (see transmission in abstract) including: a shaft (40) ;
- a low angle face gear (44) mounted to the shaft of the receiving system,
- a shaft aperture (see aperture through center of 44 through which shaft 40 extends)
- wherein the power generation system shaft (10) and the receiving system shaft (40) are positioned such that the shafts have an angular difference that is less than 30° (C3/L10-20).
- wherein the receiving system is a transmission (see abstract).
- wherein the transmission includes a rotary engine transmission (internal combustion engine is a rotary engine).

Yokel does not disclose symmetrical circular cavities, or a plurality of apertures.

Rediker teaches symmetrical circular cavities, or a plurality of apertures (31) for the purpose of reducing weight (C1/L50-54).

It would have been obvious to one having ordinary skill in the art at the time of the invention to modify the teachings of Yokel and provide symmetrical circular cavities, or a plurality of apertures, as taught by Rediker, for the purpose of reducing weight.

2. Claim 5 is rejected under 35 U.S.C. 103(a) as being unpatentable over Yokel USP 3,803,934 in view of Rediker US 5,323,665 US 5,323,665 as applied to claim 4 above, and further in view of Stone et al. US 3,942,387.

Yokel in view of Rediker discloses a low angle face gear transmission. Yokel in view of Rediker does not disclose a transmission used in a rotary aircraft. Stone et al. teaches an angle face gear transmission used within a rotary aircraft (see helicopter in title). Because both Yokel in view of Rediker and Stone et al. teach angle face gear transmissions, it would have been obvious to one having ordinary skill in the art at the time of the invention to use a low angle face gear transmission within a rotary aircraft to achieve the predictable result of transmitting power from an engine to a propeller.

Response to Arguments

3. Applicant's arguments with respect to claims 1-13 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

4. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of

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the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to TERENCE BOES whose telephone number is (571)272-4898. The examiner can normally be reached on Monday - Friday 9:00 AM - 4:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Richard Ridley can be reached on (571) 272-6917. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/T. B./
Examiner, Art Unit 3682
4/16/08

/Richard WL Ridley/
Supervisory Patent Examiner, Art Unit 3682

